

*This chapter is dedicated to
my wonderful wife,
Kimberly, and our very
active daughter, Emily.*



Despite public awareness of the negative impact that's associated with being overweight, the prevalence of obesity among adults, adolescents and children is on the rise. According to the United States Department of Agriculture (USDA), obesity in America has doubled within the past two decades. It's estimated that one third of Americans are considered to be obese based on the body-mass index scale. In addition, the number of teens and pre-teens who are becoming overweight is growing; it's estimated that 16% of those aged 2-19 are overweight. The rate of childhood obesity is so alarming that the World Health Organization has classified this as "an obesity epidemic."

The increasing bodyweight of Americans is cause for concern about public health. Being overweight has been linked to various health problems including premature death, Type 2 diabetes, hypertension, coronary artery disease, stroke, respiratory dysfunction and certain types of cancer. Since environmental factors and genetics play a role in acquiring these illnesses, the actual impact of a person's body weight is unclear. However, evidence suggests that one's lifestyle plays a large part in improving not only physical health but also mental health. (In this context, the term "lifestyle" refers to the commitment of staying physically active and following a sensible eating plan.)

The reason for the sudden rise in body weight among Americans is unclear and has led to many theories. Certain literature suggests that the consumption of processed foods, sedentary lifestyles and hectic schedules are possible reasons for poor eating habits and lack of physical activity. The scope of this chapter isn't to point out where "we" have gone wrong with our "lifestyle" choices but, instead, to point out possible solutions. Regardless of gender, age, race or socioeconomic status, the information presented here can be applied and improvements in your health can be made.

WHAT'S AN "IDEAL BODY WEIGHT"?

The terms "overweight" and "obesity" are often used interchangeably and, to some extent, mean the same thing. Both refer to excessive body weight. However, obesity is an advanced stage of being overweight. Understand that a person's body weight isn't necessarily unhealthy; the amount of body fat that's carried is what's linked to many health hazards. Rather than use a "scale" to measure body weight – which gives you the sum of all parts including bone, muscle, fat, organs and so on – it's more appropriate to use the percentage of body fat. This can be done using either skin-fold measurements or underwater weighing. The American College of Sports Medicine (ACSM) recommends

Chapter 14

Weight Management

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For weight management, it makes sense to participate in activities that promote increases in muscle mass.

body-fat percentages of 10-25 for males and 20-35 for females.

Many times, a person enters a weight-management or weight-loss program with the intent of achieving the “slenderness” of a popular television star or supermodel. When these goals aren’t reached, the person often quits the program, asking, “What’s the use?” Keep in mind that just because people are thin doesn’t mean that they practice healthy-diet tactics.

So, what’s an ideal body weight? It’s one that can be maintained while following a sensible nutrition plan that doesn’t restrict food intake to the point of deprivation. When setting goals, it’s best to focus on gradual weight loss and a long-term commitment to eating healthy. Frequently, people set unrealistic goals for weight loss such as losing 20 pounds in one month. Often, these high expectations represent about 25-30% of the person’s total body weight, which isn’t only unrealistic but also unhealthy.

A more sensible approach is to lose a total of about 5-10% of your body weight at a pace of about 1-2 pounds per week. According to many popular “diet” books, this may not sound like much; however, research has shown that individuals who produce a slow and steady weight loss tend to keep off the weight. And the newfound eating habits will change your life forever.

THE IMPACT OF CALORIES

Your body expends energy on a constant basis all day long. This is your basal (or baseline) metabolic rate which provides energy for respiration, food digestion, kidney function, heat regulation and other normal body functions. In addition, normal daily activities – such as walking the dog, shopping for groceries and running errands – also use energy. The basal metabolic rate varies from one person to another based on age, body composition, activity level and gender.

Your body uses the food that you eat as an energy source to fuel your physical actions and basal metabolism. The unit of measurement is known as a “calorie.” One calorie is the amount of heat that’s needed to raise one gram of water by one degree centigrade. If an item of food has 100 calories, it has 100 units of heat energy that can be used either as fuel or stored for later use, usually in the form of body fat. This balance is what ultimately determines weight gain or weight loss. For instance, if you expend 2,000 calories on a daily basis through normal bodily functions and physical activity but consume 2,200 calories through food and beverages, you’ll gain weight. If, on the other hand, you have the same daily expenditure of calories but consume 1,800 calories, you’ll lose weight.

In order for you to lose weight steadily, you must produce a caloric deficit. In simple terms, you must consume fewer calories

(eating) and/or expend more calories (exercising) on a daily basis. A pound of fat contains 3,500 calories. So in order to gradually lose one to two pounds of fat per week, you must produce a caloric deficit of 500-1,000 calories a day.

While the concept of achieving weight loss by using more calories than are consumed may appear to be very cut and dry, it isn't the only factor to consider. The ultimate goal of any fitness program should be to promote long-term health, not just weight loss. While it's important to consider the fact that not all calories are equal, this doesn't imply that one nutrient is more important than any other. However, the nutrient density of various foods is very important. Nutrient density is viewed as the amount of nutrients, vitamins, minerals, fiber and so on per calorie. Foods that are high in nutrients but low in calories are fruits, vegetables, whole grains, and low-fat dairy items. Eating a variety of these foods is highly recommended since they're loaded with vital nutrients that your body needs to function optimally and low in calories as well as fat. (For further information regarding nutrient values of specific food groups, visit the USDA's website at www.usda.gov.)

On average, Americans consume too many calories – and too many calories from saturated fats, trans fats and sugar (as well as too much cholesterol and sodium). Foods that are high in calories but low in nutrients

are considered to have “empty” calories. Empty calories have a negative connotation since they provide energy but few nutrients. Consuming large quantities of empty calories makes it very difficult to obtain the appropriate amount of nutrients without gaining weight. To combat their intake of foods with a low nutritional value, many people turn to vitamin supplements. Although there's nothing inherently wrong with a multivitamin supplement, nutrients should come mainly from “real foods.” In addition to providing vitamins and minerals, wholesome foods also supply hundreds of naturally occurring substances that protect against chronic health conditions.

The USDA recommends that the majority of your calories should come from fruits, vegetables, whole grains and low-fat meats and dairy with high-fat and high-sugar items used sparingly. Since the amount of energy that's expended on a daily basis varies among individuals, it makes sense that the number of calories consumed should also be varied.

When it comes to determining individual caloric needs, there are various methods from which to choose. Some are simple and others are complex but all offer an estimate of caloric needs. There are very sophisticated clinical tests that take into account oxygen consumption, heart rate, body composition and activity level. These methods are likely the most accurate but are





Table 14.1: Daily Caloric Needs Based on Age and Gender.
(Source: Dietary Guidelines for Americans)

GROUP	AGE (years)	SEDENTARY	MODERATELY ACTIVE	ACTIVE
Child	2-3	1,000	1,000-1,400	1,000-1,400
Female	4-8	1,200	1,400-1,600	1,400-1,800
	9-13	1,600	1,600-2,000	1,800-2,200
	14-18	1,800	2,000	2,400
	19-30	2,000	2,000-2,200	2,400
	31-50	1,800	2,000	2,200
	51+	1,600	1,800	2,000-2,200
Male	4-8	1,400	1,400-1,600	1,600-2,000
	9-13	1,800	1,800-2,200	2,000-2,600
	14-18	2,200	2,400-2,800	2,800-3,200
	19-30	2,400	2,600-2,800	3,000
	31-50	2,200	2,400-2,600	2,800-3,000
	51+	2,000	2,200-2,400	2,400-2,800

Note: In this table, “moderately active” is the equivalent of walking 1.5-3.0 miles per day; “active” is the equivalent of walking more than 3.0 miles per day.

very complicated and costly, requiring clinical training and apparatus.

In order to make quick and easy estimates, various mathematical formulas have been devised and various organizations have assembled charts based on age and gender. An example of this is shown in Table 14.1.

WHY DIETS FAIL

The terms “calorie” and “diet” are very much linked and often send chills down the spines of individuals who’ve dieted and failed. Often, the word “diet” is associated with counting calories, restricting favorite foods or weighing foods. Certain diets may also require prepackaged foods, special drinks or expensive supplements.

The concept of dieting is frequently misunderstood, partly due to the way that it’s portrayed by the media; diets are often seen as short-term, rapid weight-loss “gimmicks.” Whether it’s high carbohydrate or low carbohydrate, high fat or low fat, all diets ultimately fail. “Fad” diets don’t work for two main reasons: food restriction and poor education.

In this regard, most diets fail because their focus is on what foods can’t be eaten, rather than on a balanced approach. Diets that restrict specific foods or food groups are a disaster waiting to happen. Not only are these diets unrealistic, they’re also unhealthy.

For example, restricting carbohydrate consumption to the point of deprivation causes more harm than good. Carbohydrates are your body's primary source of energy. And many carbohydrates – especially fruits, vegetables and grains – provide a host of vital vitamins and minerals. Although weight loss occurs at the onset of fad diets, what's mostly lost are water and protein, not body fat.

In addition, it's unrealistic to expect long-term success when favorite food items are restricted. Ask yourself this question: "Can I go the rest of my life without eating <insert the name of your favorite food>?" If the answer is no, the diet will eventually fail. Diets should focus on long-term compliance and allow for all foods to be eaten in a balanced, healthy manner.

Another reason why diets fail is that many don't focus on how to eat healthy or even how to determine healthy foods. These are vital skills that must be taught if a long-term commitment to a weight-management program is to happen. Many popular diets simply focus on caloric restriction to promote weight loss and require prepackaged meals and/or drinks. This approach is easy to follow and can cause weight loss. But what happens when these items are unavailable? Many times the "dieter" doesn't know what to eat and, as a result, often reverts back to previous "unhealthy" eating habits.

Remember the proverb, "Give a man a fish, he eats for a day; teach him how to fish, he eats for a lifetime." This is never truer than with healthy eating.

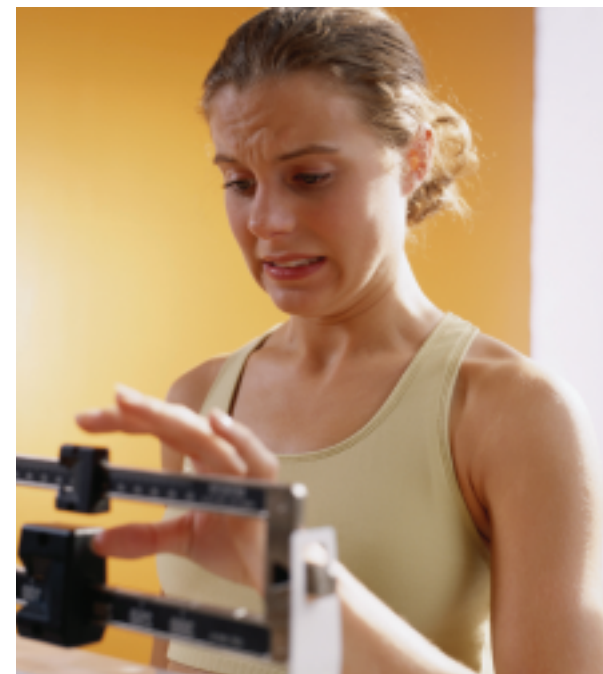
MAKING HEALTHY FOOD AVAILABLE

In order for any permanent weight loss to occur, you must make changes to your current lifestyle with regard to food. Food is all around us, in supermarkets and restaurants as well as at home and work. It serves as a way for your body to receive vital nutrients (which, incidentally, is its primary purpose). Additionally, food is often a "comfort" when unhappy and a "reward" when happy. It's also an ever-present aspect of business, social and familial gatherings.

In short, food is a part of everyone's "life" and being able to make good choices about food is a huge step in weight management. Simply being told to "avoid bread" or "eliminate dairy" isn't the answer. The answer lies in the ability to eat nourishing foods regardless of the social arena. This involves two main steps.

The First Step

In order for you to make healthy food choices, you must have healthy food options. Making the statement, "Today is the day that I start to eat better" isn't good enough if your





refrigerator is stocked with ice cream and soda. The first step in making better choices is to ensure that nutritious foods are available and ready to eat.

Let's start with the grocery store where healthy food lies in vast quantities. Use these tips in making your next trip to the supermarket a healthy one:

- **Make a shopping list.** When shopping, having a plan of action will help to reduce the amount of "impulse" buying.
- **Do most of your shopping around the perimeter of the store.** The majority of fresh fruits, vegetables, lean meats and low-fat dairy are located near the interior walls of most supermarkets.
- **Avoid shopping when you're hungry.** Shopping with an appetite often leads to food choices that are satisfying to the "taste buds" but not very nutritious.
- **Inspect your shopping cart after you're finished.** The items that you purchase should represent a balanced "diet." The largest amount of food should be fruits, vegetables and whole grains. Next in line should be low-fat dairy, lean meats and poultry. High-fat and sugary foods should be very limited.

The Second Step

Once you've purchased the food, the next step is to prepare it in a convenient way. Let's face it, most of us in New Jersey live in

a "time-starved" society. Many times, individuals choose unhealthy foods because of convenience; doesn't it seem as if high-fat, high-calorie foods are always around? Use these tips in preparing food to ensure that healthy foods are also always around:

- **Wash all fresh fruits and vegetables as soon as you get home.** Washing all produce quickly ensures that you have ready-to-eat, healthy snacks.
- **Prepackage snack foods.** Snacks – such as popcorn, pretzels, potato chips and cookies – should be packaged in single-serving containers. This will guarantee that "empty" calories aren't taken to extremes.
- **Cook meals in advance.** Prepare and package your own "TV dinners." On a Sunday afternoon, cook a week's worth of meals and freeze them individually. During the week, simply reheat the meals.

SETTING THE SCENE

At the start, a weight-management program is a difficult and daunting task. However, having nutritious foods available sets the scene for success. Here are several other relevant topics that must be considered:

Skipping Meals

Many people seek ways to reduce their caloric intakes. One common mistake is to

skip meals, breakfast in particular. It's estimated that 40% of Americans eat breakfast less than four times each week. This is troubling since breakfast really is "the most important meal of the day." Breakfast is "important" because it allows you to start off the day with an intake of vital nutrients. Skipping breakfast also means that you'll go a long period of time without eating: from dinner one night to lunch the next. This has a negative effect on your metabolism.

Of all meals, breakfast tends to be the easiest in terms of choosing – and having – healthy options. A very nutritious and palatable breakfast could include a bowl of whole-grain cereal with a subsequent serving of milk and piece of fresh fruit. Breakfast doesn't have to require a large amount of cooking skills or time to prepare. But it should represent about one third of your total calories for the day. This is a critical concept since calories that are consumed early in the day have a tendency to be used by the daily activities that follow. In addition, eating a nutrient-dense breakfast tends to curb your appetite for later meals. It has been shown that individuals who don't eat breakfast consume more calories at lunch and/or dinner than people who do eat breakfast. If time is precious early in the morning, be creative and have breakfast "on the road." The prior night, for example, make half a turkey sandwich on whole-wheat

bread and ready a serving of orange juice in a bottle to go. This breakfast will meet your morning nutritional needs and could be eaten on the way to work or school (assuming, of course, that you're not driving).

Snacking

The simplest way for you to reduce your caloric intake is to eliminate sugary beverages and snacks and replace them with water or healthier options. An eight-ounce serving of regular soda has about 150 calories, mostly from sugar. If you consume 2-3 sodas – which isn't unusual when socializing with friends or family at the dinner table – that's about 300-450 calories, not including the meal. A better option is water; flavored water is acceptable as long as the sugar content is minimal. Water not only has zero calories but also serves to keep the body hydrated. Although common belief has held that we need 8-10, 8 ounce glasses of water per day, the vast majority of healthy people adequately meet their daily hydration needs by letting thirst be their guide, says the newest report on nutrient recommendations by the Institute of Medicine of the National Academies. They go on to say that those who are physically active or who live in hot climates may need to consume more water than thirst would indicate. So, if the blandness of water is unappealing, you can add flavor with lemon, lime or orange juice.





Unsweetened or brewed iced tea can also provide a flavorful beverage. The Institute of Medicine no longer recommends the avoidance of caffeinated beverages.

Snacks that are high in sugar or salt also tend to increase calories very quickly. A small bag of potato chips has 100-200 calories, depending on the brand. One bite-size peanut butter chocolate cup has 63 calories. Just to put that in perspective, one medium-size apple has 65 calories and one large banana has 100 calories. Both the apple and banana will satiate hunger better and have a much higher nutritional value.

“Mindless” snacking is a leading cause of unnecessary weight gain. This refers to eating things simply because they’re around such as grabbing a handful of candy while passing a coworker’s desk, munching on popcorn while at the movies and eating a candy bar while driving. In addition, salty and sugary snacks make you thirsty; if sugary beverages are consumed, that adds to the calories. Whatever the scenario, these calories count and add up very quickly. If the need for a midmorning snack arises, plan ahead. Choose a healthy alternative to coffee and donuts; instead, pack low-fat yogurt and a piece of fruit. You’ll feel satisfied by the sweetness of the snack and good about eating healthy.

Eating Out

This topic is one of great concern since our daily routines have become so fast-paced that meals – dinner in particular – are frequently eaten “on the road” at restaurants rather than at home. Meals that are cooked at home have always been a staple of American family values and good nutrition. Home-cooked meals tend to be lower in fat and calories than the same foods that are prepared in a restaurant. The reason for this is that restaurants often prepare items with little consideration for caloric content; it isn’t uncommon for foods to be heavily salted or “dressed” with excessive butter or oil – all for the satisfaction of your taste buds. For example, a tablespoon of cooking oil has 12 grams of fat and 120 calories. If the same meal was prepared at home, a fraction of the oil and salt can be used and the end product will suffer little in terms of taste.

Family-style meals also have an indirect effect on how children view nutrition. If children see their parents preparing and eating nutritious foods then they’ll most likely continue that tradition when they become adults. Understandably, “eating out” has become a part of our modern culture and although a home-cooked meal is the best option, finding ways to eat healthy while dining out isn’t unthinkable. Here are some options that’ll allow you to have an enjoyable evening out and not sabotage your eating plan:

- **Ask questions as to how the food is prepared. Grilled or broiled foods are lower in fat calories than sautéed or fried foods.**
- **Choose dishes that include steamed vegetables or a baked potato (hold the butter and sour cream).**
- **Ask the establishment for a half serving or child's portion.**
- **Keep in mind that most restaurants are more than happy to accommodate individuals with specific nutritional requirements.**
- **Eat a bowl of vegetable or chicken soup as an appetizer. Soups tend to be low in calories (at least those that aren't cream based) and will satisfy your hunger so that you won't overindulge when the main course arrives.**
- **Make substitutions whenever possible. Examples: If the broiled fish is served with a butter sauce, ask them to "hold the sauce"; or if the chicken is fried, ask them to make yours grilled.**
- **Get a bowl of fruit, frozen sorbet or sherbet for dessert rather than indulging in a high-fat, high-sugar treat. These will satisfy your sweet tooth but have much lower calorie contents.**

The bottom line: Choosing healthy foods while dining out is a skill that, when mastered, will prove to have a positive impact on your weight-management plan.

THE IMPACT OF EXERCISE

Although healthy eating habits are essential for maintaining a healthy lifestyle, they're only one part of the equation. Just as important is the need to remain physically active on a daily basis whether by exercising regularly at a local fitness facility or taking daily walks with coworkers during lunch. Maintaining a reasonable level of physical fitness is essential to maintaining a desired body weight.

Now more than ever, individuals understand the need to remain active. The health benefits are well documented, ranging from the prevention of heart disease to the treatment of depression. News stories and advertisements that promote the benefits of regular exercise are plentiful. Yet, the amount of daily physical activity among Americans is at an all-time low. It's estimated that 40% of Americans don't perform any regular physical activity. It's also reported that physical-education classes in schools are on the decline due to budget cuts and overcrowding. Although the scope of this chapter isn't to point blame at our declining levels of physical fitness, it's important to note that this lack of physical activity is having a direct impact on the health of many Americans. Simply, we need to be more active.

In terms of maintaining a healthy body weight, regular activity has two distinct





advantages. The first is associated with the expenditure of calories both during the activity and the hours after. Whenever your body is in motion, your muscles are working and, therefore, use calories. (Recall the concept of creating a caloric deficit.) And your body doesn't stop using calories once the activity is finished. Since your heart rate has been elevated and muscles have been fatigued, there's a period of time after the activity where your body continues to expend energy in an attempt to return to its "normal" resting state. Although the length of this period is highly variable, it's thought that the more "intense" the activity, the more caloric expenditure there is post workout.

The second advantage is related to the amount of lean-muscle mass that can be produced from regular exercise, especially strength training. Since muscle tissue is metabolically active – meaning that it utilizes more energy at rest compared to fatty tissue – the more muscle tissue that individuals have, the more calories they'll utilize on a daily basis. So it makes sense to participate in activities that promote increases in muscle mass.

What's Exercise?

A question that often arises is, "What's the best type of exercise"? Or, "How long should I exercise"? In terms of managing your body weight, it's best for you to perform various

activities on a daily basis. Notice the word "activity" not "exercise." There's an interesting relationship between physical activity and exercise that's often misunderstood. Both words have roughly the same meaning and are used interchangeably. However, the term "exercise" refers to a structured environment that has a starting and ending point and involves one or more of the components of physical fitness (such as muscular strength/endurance, aerobic or cardiorespiratory fitness and flexibility). An example of exercise is doing a structured three-mile walk followed by a brief routine of push-ups, chin-ups and sit-ups.

The current ACSM guidelines are to do aerobic training 3-5 times per week and strength training at least twice per week. Both types of exercise have a great deal of benefits in terms of promoting health and fitness and should be performed, if possible, on a weekly basis. However, this type of structured activity isn't the only way for you to control your body weight and/or get fit.

On the other hand, "activity" refers to tasks that require you to move your body and expend energy (calories) on a more casual basis. Examples of activity are going for an informal walk with coworkers, playing with your children and washing your car by hand. These seemingly simple tasks are an element of daily living that has been lost in recent

decades. Partly due to the convenience of computers and mechanized devices, many daily tasks have been replaced by those that are much less physically challenging. For instance, instead of shoveling snow – which can use 400 calories per hour – many people now use motorized blowers; rather than washing a car by hand – which can use 150 calories per hour – many people now drive to an automated car wash. Again, there's nothing wrong with making your daily chores easier or less time consuming. But if you don't plan structured exercise on a weekly basis, doing informal activities is an excellent way to expend energy.

The message is clear: Even though a structured exercise plan has definite health benefits and should be included in your program, daily physical activity is a great step in maintaining a healthy body weight.

Making the Time

In recent years, far too much spare time is spent doing sedentary activities such as watching television, working on computers and playing video games. There's nothing wrong with these activities; however, a balance must be made to ensure that physical activity is part of the mix. As stated in the opening paragraph, the "obesity epidemic" is upon us; Americans are gaining body weight and body fat at an alarming rate. All the while, the amount of daily physical activity is at an all-time low.

Finding ways to make your day more active is a good way not only to improve your fitness but also to spend quality time with your loved ones. Hiking with family members on a Saturday afternoon is a great way of spending time together – and it can use 370 calories each hour! Here are some other examples: Doing light yard work, 330 calories an hour; lifting weights at the local YMCA or JCC, 220 calories an hour; playing with a toddler, 200 calories per hour; spending quality time with family while improving fitness, priceless.

A common misconception is that exercise has to take up a great deal of time in order to be beneficial. Although physical activity should last for about 30-60 minutes, it doesn't have to be consecutive. Exercising in small chunks of time is fine as long as the total amount for the day adds up to about 30-60 minutes. So you can perform a 20-minute routine of calisthenics in the morning, go for a 25-minute walk at lunch and do a 15-minute stretching program before retiring for the evening.

Another way to increase the amount of daily activity is to make your life less convenient. Examples include parking in the farthest space rather than near the entrance, taking the stairs rather than the elevator and using a walking lawn mower instead of a riding tractor. Simply adding an extra hour of walking to your daily routine can use up to

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300 calories. And again, there's no need for this to be done at the same time; doing it in bits and pieces are fine.

As noted in the beginning of this chapter, Americans are becoming "oversized" and losing the "battle of the bulge" in terms of expanding waistlines. It doesn't have to be this way. Whatever the reasons why people have become less physically fit

and/or gained more weight, you can reverse the "growing" trend and adopt a healthy lifestyle. It doesn't have to be a tremendous "leap-of-faith" commitment; simple adjustments to your current eating and exercise habits will do the trick.

Remember, your health is the most important thing to the people around you – don't jeopardize it.

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